

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

690 Walnut Ave.St. 150

Vallejo, CA 94592-1133

(707) 649-5453

(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-017793**Date Inspected:** 22-Oct-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

CWI Inspectors: ABF: Mr. Shang Qing Quan, Mr. Li Shi You

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG Bay 14

This QA Inspector observed ZPMC welder Mr. Liu Yong Sheng, stencil 055483 was prepared to perform shielded metal arc welding process to make tack welds on East Cable Anchorage Bearing Stiffener Plate weld AP3031-001-412. This QA Inspector observed ZPMC workers using electric grinders to remove metal oxides, scale and paint from the surfaces that are to be welded. This QA Inspector observed Mr. Liu Yong Sheng appeared to be certified to make these tack welds, the welding electrodes were stored in a portable rod oven which was warm to the touch and he did not appear to perform any welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Wang Lanying, stencil 045265 used submerged arc welding procedure WPS-B-T-2221-B-L2C-S-2 to make OBG segment 14W weld SEG3020AC-015. This weld joins side plate SP3140C to SP3141C. This QA Inspector observed a welding current of approximately 550 amps and 27.0 volts. Ms. Wang Lanying appeared to be certified to make this weld, and electrical heaters had been used to preheat the base material. Items observed by this QA Inspector appear to be progressing in compliance with

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project specifications.

This QA Inspector observed ZPMC welder Mr. Xi Xianyou, stencil 047866 used flux cored welding procedure WPS-B-T-2232-TC-U5-F to make OBG segment 13AW weld SEG3013H-002. This weld joins floor beam FB3188 to bottom plate BP3074A. This QA Inspector measured a welding current of approximately 300 amps and 30.0 volts. Mr. Xi Xianyou appeared to be certified to make this weld and the base materials were preheated with electrical heaters prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Hue Junrong, stencil 201215 used flux cored welding procedure WPS-B-T-2232-TC-U5-F to make OBG segment 13AW weld SEG3013H-003. This weld joins floor beam FB3188 to bottom plate BP3074A. This QA Inspector measured a welding current of approximately 295 amps and 30.0 volts. Ms. Hue Junrong appeared to be certified to make this weld and the base materials were preheated with electrical heaters prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

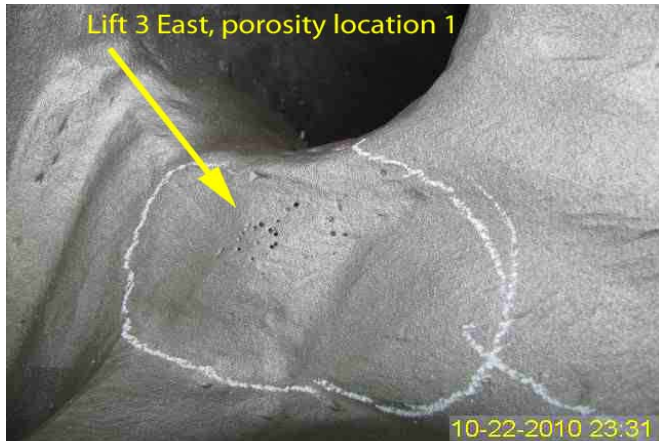
This QA Inspector observed ZPMC welder Mr. He Hanbi, stencil 202122 used flux cored welding procedure WPS-B-T-2232-TC-U5-F to make OBG segment 13AW weld SEG3013H-003. This weld joins floor beam FB3188 to bottom plate BP3074A. This QA Inspector measured a welding current of approximately 270 amps and 30.0 volts. Mr. He Hanbi appeared to be certified to make this weld and the base materials were preheated with electrical heaters prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

Blast Shop 1

ZPMC requested Caltrans personnel to perform visual inspections of East Tower Lift 3 interior surfaces between 83 meters elevation to 99 meters on October 22, 2010 at around 23:00 hours following the initial pre-blast cleaning of the steel surfaces. This QA Inspector along with other QA Inspectors performed random visual inspections of these areas. This QA Inspector visually observed approximately 30 locations that required grinding to resolve visual weld spatter, arc strikes, shallow nicks, scrapes, and other minor surface rejections and approximately five areas that require magnetic particle inspections. This QA Inspector observed ZPMC has identified two areas of porosity a weld located at the bottom surface of elevation 99 double diaphragm adjacent to skin plate "C". This QA Inspector observed one additional area of porosity in the same weld. All three areas of porosity have been identified as requiring weld repairs. See the photographs below for additional information. Mr. Bascar Govindarajan issued a "Blast Inspection" report to document the results of these inspections.

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Summary of Conversations:

See Above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul
Reviewed By:	Carreon,Albert

Quality Assurance Inspector
QA Reviewer
